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Network Working Group
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SNMP over Ethernet

Status of This Memo

This memo describes an experimental method by which the Simple Network Management Protocol (SNMP) as specified in [1] can be used over Ethernet MAC layer framing [2] instead of the Internet UDP/IP protocol stack. This specification is useful for LAN based network elements that support no higher layer protocols beyond the MAC sub-layer. Distribution of this memo is unlimited.

Overview and Rational

SNMP has been successful in managing Internet capable network elements which support the protocol stack at least through UDP the connectionless Internet transport layer protocol. As originally designed, SNMP is capable of running over any reasonable transport mechanism (not necessarily a transport protocol) that supports bi-directional flow and addressability.

Many non-Internet capable network elements are present in local networks; for example, repeaters and wiring concentrators. They include both addressability, and programmable intelligence. These devices are widely used and increasingly important yet, for the most part, invisible except through proprietary mechanisms.

Specification

Almost all Internet capable network elements use the same mechanism for encapsulation of the Internet protocol stack regardless of conformity with the physical characteristics of Ethernet or 802.3, this mechanism is specified in [3] and [4]. This specification continues that style with the assignment (by XEROX) of 33100 (hexadecimal 814C) to the Ethernet Type field for SNMP. The data portion of the Ethernet frame would then be a standard SNMP message as specified in [1].

References

[1] Case, J., Fedor, M., Schoffstall, M., and J. Davin, "A Simple Network Management Protocol", RFC-1067, University of Tennessee at Knoxville, NYSERNet, Inc., Rensselaer Polytechnic Institute, and Proteon, Inc., August 1988.

[2] DEC, "The Ethernet - A Local Area Network", Version 2.0, Digital Equipment Corporation, Intel Corporation, Xerox Corporation.

[3] Hornig, C., "A Standard for the Transmission of IP Datagrams over Ethernet Networks", RFC-894, Symbolics, April 1984.

[4] Postel, J., and J. Reynolds, "A Standard for the Transmission of IP Datagrams over IEEE 802 Networks", RFC-1042, USC Information Sciences Institute, February 1988.

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